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ABSTRACT

This exploration of the future of research in special education identifies components of "good research" and reasons for the existence of poor quality research. It cites the difficulty in identifying links between research findings and innovations in practice. Factors that will influence the future of research in special education are noted, such as the need to prove school effectiveness, publication of reports critical of schools, changes in the concept of special education need, changed views about the rights of handicapped individuals, changes in patterns of employment, changes in incidence of handicapping conditions, changes in the ways in which research is evaluated, significant rise in poverty, education as one of the least research-supported professions, developments in information processing, and the challenge of diversity. In regard to the characteristics of research in the immediate future, it is likely to be: (1) collaborative; (2) interdisciplinary; (3) naturalistic; (4) intervention-focused; (5) conducted in centers and large independent behavioral research organizations; and (6) of limited short-term usefulness to school personnel. It is also likely that there will be: improvement in researcher training; a need to train professionals who can do quality research, integrate research, and translate research into practice; a need to train policy researchers; and a need to provide research training that simulates future roles. Nine references. (JDD)

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The Future of Research in Special Education

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Educators regularly write about or give speeches on the future of research. A perennial question--raised at conferences and in our journals--has been whether educational research has had, or can have, any useful impact on educational institutions, or for that matter on the many sectors of society other than schools and classrooms that influence people's learning (Carroll, 1984). In preparing this paper I skimmed no fewer than 80 papers on the future of research in education. Few papers, though, deal with the future of research in special education. One such paper, presented by Michael Scriven at a Wingspread Conference (1983), vividly describes one outlook on research in special education:

> The pessimist says that a 12-ounce glass containing six ounces of drink is half empty; the optimist calls it half full. I cannot say what I think the pessimist could say about research and practice in special education at this point, but I think the optimist could say that we have a wonderful opportunity to start all over! (p. 84)

I have not decided whether I am in complete agreement with Scriven. Certainly, it is tempting to be so. "Good research" has three components: (a) it is adequately conceptualized, (b) it follows scientifically acceptable research practices, and (c) the research findings have applicability to practical problems or result in the advancement of theory. When these three criteria are applied to research in special education, it is frequently argued that it is difficult to find large quantities of "good research." Much of the research in special education has been inadequately conceptualized; it never stood a chance of contributing to theory or practice because the research problems investigated were not carefully thought out. When one does find instances in which research has been conceptualized adequately, the probability is very high that the research was carried out in such a way that aspects of scientifically acceptable research practices were violated.

While it is easy to criticize current research in special education, it is more difficult to explain the reasons why we have poor quality research going on. I believe the cause is two-fold:

1. Special education often has not been viewed as a legitimate discipline for scientific inquiry.

2. There has been less than adequate training of large numbers of professionals who can do research, integrate prior research, and translate research into practice.

Why the heavy interest in research and the future of research? I suppose it is because we believe that solutions to major educational problems, in this case problems in special education, will come through research. Harold Howe (1984), however, contends that if school people want solutions

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to problems, research is not the way to go. It takes time, it is inefficient, it costs lots of money, and it seldom leads to authoritative answers on issues. According to Howe, research has value because it leads people to alternative ways of thinking about their situation and gives them critical insights into why things happen as they do. Consider the following:

> Research is very good at many things: identifying issues and alternative perceptions of issues; defining the extent of problems; providing new perspectives on how to approach problems; examining the effects of current practices; evaluating the effects of innovations; revealing diversity of opinion about the relative salience of problems, and about future actions.... Many of these suggest new ways to proceed, but research does not unequivocally demonstrate that doing A is the right thing. (Howe, 1984, p. 23)

I am not contending that research does not have or has not had an impact on educational practice. But, it is very difficult to identify the links between research findings and changes/innovations in practice. Research is absorbed into educational practice gradually and the effects of research on educational practice are generally easier to detect retrospectively than they are to predict or plan. This is yet another major reason why it is so difficult to make reasonable statements about the future of research.

Context for Future Research in Special Education

As I thought about research in special education, I did so taking into account a number of contextual factors. This next section reviews those factors that will influence the future of research in special education. Many of these are derived from those cited by Wedell and Roberts (1981)following a survey of educators in England.

School Effectiveness Research

The teacher, the classroom, and the total school organization are being systematically scrutinized for secrets of effectiveness. The relationship between teacher behavior and student performance in particular settings or under particular conditions is among the most heavily researched topics today. In addition, education researchers are beginning to devote more and more effort to studies of social interactions in classrooms and schools. These lines of inquiry are also more prevalent today in special education and will continue over the next few years to be major areas of inquiry.

Publication of Reports Critical of Schools

Whenever society wants to invite major social change, schools are entrusted with developing programs or interventions. Schools are held responsible for doing more today than they ever have been, and I frankly believe they are being expected to do too much. In addition to preparing students for work and developing in each individual his or her potential, schools are expected to eradicate poverty, unemployment, racism, sexism,

AIDS, and the use of drugs. Schools stand absolutely no chance of achieving those ends, and they are then criticized when major progress toward those ends is not evidenced. There is considerable recognition in the reports of the need for research.

Changes in the Concept of Special Education Need

Current thought on why an individual needs special education is moving away from the causes residing within the child to an increasing recognition of the relevance of environmental influences and the interaction of these influences with student conditions.

Changed Views About the Rights of Handicapped Individuals

Over the past 10 years, passage of major legislation has led to significant change in the way we view the rights of handicapped students to be educated, specifically in least restrictive environments.

Changes in Patterns of Employment

The past 10 years have also brought major changes in patterns of employment. These changes in turn change the ways in which handicapped students will spend their postschool years. Major questions are being raised, therefore, about the goals of education for handicapped students and about the exact nature and content of the curriculum.

Changes in Incidences of Handicapping Conditions

The incidence of handicapping conditions might be expected to follow the birth rate, and to a certain extent this is true. Yet, the effects of advances in preventive medicine are apparent in the decline in numbers of severely handicapped students. Advances in microelectronics help limit the numbers of sensorilly impaired students who experience educational handicaps. Yet, social and political factors also come into play as evidenced in the very significant increase (129% in the last 5 years) in the numbers of students called learning disabled.

Changes in the Ways in Which Research is Evaluated

It may be a bit tougher to get research published these days, though as Editor of a major journal I have ceased to be amazed at aspects of the review process. Despite the impossibility of predicting how papers will get reviewed, one important shift is clear, at least as far as papers for Exceptional Children are concerned. There is a focus on practical implications of research. Research viewed as having few practical implications is not highly evaluated. And researchers are increasingly being asked to provide evidence for demonstrated efficacy. In the past our journals were clogged with descriptions of treatments, model programs, model interventions, and the like, with little evidence that such things made any difference. Increasingly, authors are being asked to provide data demonstrating that the models they suggest actually make a difference.

Significant Rise in Poverty Among Children and Families

The number of children living in low-income households has risen sharply in the last few years, even though the total number of children has declined. This largely reflects an increase in the number of single parent families. At the same time, federal spending on children and families--especially those with low incomes--has declined in real terms.

Education is One of the Least Research-Supported Professions

There just is not and has not been a national commitment to the support of research in education. We do see some recognition of the need for research in recent reports publicizing the need for educational reform. Glaser (1984) indicated that "Our schools will move beyond risk to obsolescence if the education profession fails to receive the research support that should underlie one of the most critical functions of an advancing society." (p. 9)

Developments in Information Processing

Major developments in information processing are having an impact on research in special education. Electronic generation, storage and delivery of information, and the automation of reference services act to make the generation of research and research reports much simpler and less time consuming. And, as researchers themselves develop better information-seeking behaviors, we see improvements in the quality of research.

The Challenge of Diversity

Educators are faced with a significant challenge: to teach successfully all the diverse children who have become the active concern of the educational system. In the past schools operated on a principle of selection rather than one of instruction. We simply excluded hard to teach students from school. Now we must make it possible for everyone to meet standards of educational performance that once were expected of a much smaller segment of the population.

Characteristics of Research in the Immediate Future

As I indicated earlier, any statement about the future of research is a personal perspective. Given that, I have tried to identify what I think will characterize research in the immediate future.

It Will Be Collaborative

Personnel in universities and large-scale independent research organizations are moving toward a commitment to conduct collaborative research--usually on problems school personnel identify. Research informs practice, but at the same time the experiences and problems of practical application inform research and suggest investigations that lead to development of new theory.

It Will Be Interdisciplinary

The major health, educational, and social problems of this country will not be solved by single discipline research. And the solutions to problems will not be unitary in nature.

It Will Be Naturalistic

There clearly is a move to conducting research in naturalistic settings, yet it is very difficult to do so: In schools, teachers are increasingly reluctant participants in research, and there are obvious obstacles to conducting research in natural settings like families.

It Will Be Intervention Focused

Much of past research in special education has been descriptive. We have described students, categories of students, test performance of specific types of students, and interventions for students. The focus of research is clearly shifting away from descriptions of exceptional learners to the development of appropriate instructional interventions for handicapped students.

It Will Be Conducted in Centers and Large Independent Behavioral Research Organizations

It is becoming increasingly difficult for the individual investigator to conduct the kinds of research that are needed in special education. Centers provide a number of advantages in conducting research. They provide an interactive intellectual environment in which investigators can conduct pilot studies and collaborative research. They provide shared resources which individual investigators could not justify singly; they serve as a magnet for other resources throughout a region and for potential subjects. Large centers facilitate establishment of shared data bases and enable investigators to avoid having to collect new data on isolated problems. McKeachie and Brim (1985) identified a number of characteristics of large scale independent research organizations:

1. They will take on research at sites required by the problem, the design, or the subjects rather than accepting only research that can be done at the home setting.

2. They can address real problems in a real time frame rather than the indefinite time frame of the academic researcher.

3. They can devote whole sections of their organization to a study rather than leave it to the lone researcher.

School Personnel Will Find Most Research of Limited Use to Them

I would prefer not to sound so negative, yet I believe that realistically school personnel will find little quick benefit to them in the research conducted in special education. Howe (1984) raised many questions about the extent to which research was a way to address practical problems. He also reported that, when he asked principals and superintendents, their

replies indicated that they found little of value in most research. Howe indicated that

> People respect research in inverse proportion to their familiarity with the field in which it is done. So, they tend to be enthusiastic about research on the frontiers of biological science, on the origins of the universe, or even on the activities of prehistoric man. But, with such subjects as the family, the effects of television, consumer behavior, or education--they feel free to ignore it, or to regard its findings as either wrong or not applicable to them. (p. 23)

Training of Special Education Researchers Will Improve and Increase

For years college and university training programs have been training special education personnel. For the most part they have been training practitioners--people who will educate handicapped students, who will administer special education programs, or who will train others to teach and administer programs. Occasionally, more recently, and more often by accident than systematic design, we have trained researchers.

The need clearly exists to systematically train researchers who can focus their energies on the problems in special education. We currently expect those who teach handicapped students to do so from a data base or a knowledge base--to employ empirically demonstrated effective interventions with students. The knowledge base for doing so must come from research, yet that knowledge base is lacking. State and local education agencies are also confronted with major empirical questions as they attempt to develop a defensible system for delivery of services to students who experience academic and behavior problems. The present knowledge base does not answer many of the empirical questions nor is there a trained cadre of researchers to carry out the studies necessary to provide needed data. In an era when the effectiveness of screening, preventive programs, early interventions, diagnostic practices, special education regimens, and general educational innovations is being challenged, the need for professionals who can do quality research and translate research into practice is paramount.

Graduate programs at major universities will engage in more extensive efforts to train researchers who can take leadership roles in doing research, integrating research, translating research into practice, and training others to do and translate research. Research training should, and probably will, address five critical needs.

The Need to Train Professionals Who Can Do Quality Research. It is argued that much of the research in special education has neither achieved high quality nor extensive impact upon educational practice. There is a pressing need to give direction to good practice.

One need not look far to document the existence of low-quality research in special education. Our journals contain numerous examples of "bad research." Anyone who has served on a review panel for the U.S. Office of Special Education knows that there are few proposals in which the research plan is adequately conceptualized, the design meets appropriate scientific

standards, and the proposed activity has practical applications and implications.

The Need to Train Professionals Who Can Integrate Research. Much of the research done in special education has been piecemeal and seldom integrated, yet clearly this is beginning to change. Evidence about special education and human development has multiplied beyond the ability of the unaided human mind to comprehend it. Within the last decade methodologists and scientists have developed methods whereby the findings of research can be synthesized and organized into coherent patterns. Yet few individuals in doctoral training programs receive specific training in research integration methods.

We need to train professionals to integrate prior research in such an effective manner that their reviews produce valid implications for practice.

The Need to Train Professionals Who Can Translate Research Into Practice.

There is little doubt that much of the research in special education has significant implications for practice. Yet, too few individuals have expertise in translating into practice the results of their own or others' research. Nowhere is the gap between research and practice more evident than in the proliferation of interventions for handicapped students in the face of sound empirical evidence for the ineffectiveness of those interventions. I believe it may be safely said that while we do not always know precisely what to do in educating handicapped students, we often know what not to do. We have ample empirical evidence that some approaches do not work. At the same time, those approaches are being implemented in widespread fashion, and often at an increasing rate.

The standard model for translation of knowledge into action progresses through developmental phases from research to development to demonstration to implementation to adoption, with each phase dependent on all previous phases. Yet, for the most part, this sequential process rarely happens in special education, largely because interventions are most often instituted in response to societal needs than in response to scientific findings.

We need to educate researchers who can and will address the translation to practice of the findings of their own and others' research.

The Need to Train Policy Researchers. Much of the research in special education has little to say about public policy related to the education of handicapped students. This is precisely because most of those who conduct research relevant to special education have been trained to conduct discipline research rather than policy research.

Decisions regarding changes in policy, organizations, and programs relative to delivery of appropriate educational services to handicapped students are being required of administrators nationwide. Shrinking public resources increasingly necessitate careful decisions based upon solid evidence regarding effectiveness and costs. The need for policy research is clear in areas such as:

1. Provision of service to children in out-of-school placement.

2. Supervision of special education staff.

3. Interagency agreements for special education instruction.

4. Instructionally related services.

5. Staff development needs in special education.

6. The feasibility and effectiveness of an extended school year for severely handicapped students.

7. Status and improvement of services to severely handicapped students in rural areas.

8. Student/teacher ratios.

9. The efficacy of entrance/exit criteria for emotionally disturbed students.

10. Application of technology to delivery of services in rural areas.

11. The feasibility and efficacy of interagency agreements.

These activities are simply illustrative of the necessary policy research questions and issues currently confronting state education agencies.

A new generation of policy developers and analysts must be trained to address the policy issues of services for handicapped students and to improve the translation of research into effective public policy. Special education has been dependent on policy development processes which did not readily accept or understand the issues in the field or the body of knowledge of special education.

Coleman (1972) distinguished between discipline research, designed to add to the knowledge base, and policy research, designed to lead to action and to predict and study the consequences of that action. I believe special education needs to and can use scientific methods to change itself. To do so, I believe special education researchers must be trained in policy research and in translating their research into action.

The Need to Provide Training That Simulates Future Roles. There is need to approximate more closely future research and development roles in research training programs. Some evidence is currently available regarding major predictors of educational research productivity that may be useful to designing advance training programs.

In a study to ascertain the correlates of scholarly productivity, Blackburn, Behymer, and Hall (1978) found that the persons who were productive over their full careers started publishing early in their careers, received their degrees when young, and assumed the habit of

regular output. The work environment was also a critical factor. The most productive persons worked at universities with reputations and press for scholarship.

The effect of early involvement in research and publication during graduate training on later productivity is cited in a number of studies. Clements (1973) found that early publication activity was strongly related to future productivity, the implication being that faculty who are intrinsically motivated, successful, and genuinely interested in research at an early age continue to publish throughout their careers.

Summary

Research in special education is influenced quite directly by volatile social, political, and economic concerns. Thus, it tends to be reactive rather than proactive. Research stems from major social change, as well as from changes in the laws and guidelines that direct practice.

This paper outlined my views on what research might look like in the immediate future, specifying that such research will likely be collaborative, interdisciplinary, naturalistic, and focused on intervention. While individual investigators will continue in their isolated studies, most applied research will be conducted in centers and large-scale research organizations. Major advances are being made in educating professionals who can conduct research. Even more change is evident in the education of people to integrate and translate research findings.

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